ALAMEDA-CONTRA COSTA TRANSIT DISTRICT

STAFF REPORT

MEETING DATE: 2/26/2025 **Staff Report No.** 25-151

TO: **AC Transit Board of Directors**

FROM: **Kathleen Kelly, Interim General Manager/Chief Executive Officer**

SUBJECT: **Annual Report of the State of the District's Fleet**

BRIEFING ITEM

AGENDA PLANNING REQUEST: ☐

RECOMMENDED ACTION(S):

Consider receiving the annual report on the state of the District's Fleet.

Staff Contact:
Salvador Llamas, Chief Operating Officer

STRATEGIC IMPORTANCE:

Goal - Safe and Secure Operations
Initiative - Service Quality

The annual report on the state of the District's Fleet provides an update of maintenance activities which are aligned and support the following Strategic Plan Goals and Initiatives: Safe and Secure Operations, Convenient and Reliable Service, High Performing Workforce, Environmental Improvement, Service Quality, and Zero Emission Programs.

BUDGETARY/FISCAL IMPACT:

There is no current direct fiscal impact related to this report.

BACKGROUND/RATIONALE:

This report provides an overview of the District's bus and non-revenue fleet maintenance programs and other support activities, including the following: age of the bus fleet and replacement schedules, zero-emission bus program, bus maintenance activities, quality assurance program, non-revenue vehicles, and contingency fleet vehicles. The report includes compliance updates with the California Air Resources Board (CARB) Innovative Clean Transit (ICT) Regulation.

Bus Fleet Age and Replacement Schedules
During calendar year 2024, the District maintained the operation of 625 buses in the fleet. A total of 8 buses were decommissioned and replaced by 8 new buses. The average age of the active fleet decreased from approximately 7.90 years in 2023 to 7.2 years in 2024. The following fleet changes transpired during 2024:

Decommissioned
8, MCI 45-foot Commuter

New Buses
8, MCI 45-foot Commuter

The District is scheduled to replace 59 older buses that are beyond the end of useful life with new buses during calendar year 2025:

- 50, Gillig 40-foot Diesel (final acceptance)
- 9, New Flyer 60-foot Hydrogen

To achieve the District's Transit Asset Management (TAM) performance targets, the District must continue replacing buses that have exceeded the Federal Transit Administration's (FTA) end of useful life. At the end of 2024, the District had 144 buses exceeding the end of useful life. Considering the planned bus procurements for this year, the current projection for 2025 is that the District will have 98 buses beyond their useful life.

The District needs to prioritize funding to replace these older buses. To replace them with new cleaner diesel buses it would cost approximately $68 million at $700,000 per bus. Replacing them with a zero-emission bus (ZEB) would cost an extra $68 million to $83 million depending on the technology and not considering any infrastructure improvements needed to support the deployment of the ZEBs. To meet the District's TAM performance targets, replacement contracts will need to be secured for the aging bus fleets listed below:

- 2009 Van Hool 30-foot Diesel (10)
- 2012 Gillig 40-foot Diesel (65)
- 2013 New Flyer 60-foot Diesel (23)

District staff is working on grant applications to secure funding for the 98 buses listed above and award bus manufacture contracts by the end of 2025.

During calendar year 2024, the miles traveled by the bus fleet increased by 3,000 miles to approximately 20.4 million miles. An increase or decrease in miles traveled directly impacts the quantity and frequency of the maintenance program activities and operating costs.

Zero-Emission Bus Program
AC Transit ended December 2024 with 58 zero-emission buses in service comprised of 30 hydrogen fuel cell electric buses (FCEB) and 28 battery electric buses (BEB). ZEB technology fleets operate out of Emeryville (Division 2) and Oakland (Division 4). All hydrogen buses have been moved to Emeryville due to infrastructure upgrades in Oakland.

On June 26, 2024, the District released the Zero Emission Program Annual Progress Report which is published annually. This report is the second phase of reporting based on the 2-year Zero Emission Transit Bus Technology Analysis (ZETBTA) that was launched in 2020. The Zero Emission Program Annual Progress Report expands evaluation of ZEB technologies beyond the initial 5X5 control fleet. It includes the District's ZEB Program capital investment inception, and the financial forecast needed to deliver the full fleet transition.

AC Transit's Capital Projects department has completed the battery electric charging infrastructure at Emeryville, increasing capacity to charge up to 26 BEBs at once. However, the infrastructure expansion in Oakland, which would support an additional 25 BEBs, is currently on hold due to power grid limitations from Pacific Gas and Electric (PG&E). Capital Projects is exploring alternative solutions to address this issue. The hydrogen fueling infrastructure in Oakland has been decommissioned, and construction has begun for a fueling system to accommodate up to 130 fuel cell buses. Additionally, Capital Projects started developing plans to retrofit maintenance bays at the Emeryville and Oakland divisions, as well as at the Central Maintenance Facility. Planning for the Hayward hydrogen station is also underway. In 2024, the District received an additional $15 million through the FTA Bus and Bus Facilities and Low or No Emissions Grant, bringing the total to $40.5 million when combined with the 2023 award. These funds will support the modernization of the training center, the development of mixed reality curriculum, and additional ZEB purchases.

Bus Maintenance Programs

Maintenance programs are designed to keep the fleet in a state of good repair, as required by the FTA, with a focus on safety, reliability, and cleanliness throughout the fleet's operational lifespan. Preventative maintenance inspections and scheduled maintenance tasks are the cornerstone of these programs. Each bus undergoes multiple scheduled maintenance activities to meet the Original Equipment Manufacturer (OEM) recommended intervals, while also ensuring safety and regulatory compliance. Preventative Maintenance Inspections (PMI) and Deep Cleaning are the core programs that support a safe, clean, and dependable fleet.

During PMI, mechanics identify parts or systems that need additional attention, and a corrective work order is generated to resolve any issues. Data from the Ellipse asset management system, PMI reports, road call failure analysis, and other performance metrics are used to launch several safety and reliability initiatives. Warranty and Quality Assurance campaigns led to 1,228 work orders. In total, the department completed 9,081 scheduled and 43,792 unscheduled work orders in 2024, amounting to 56,602 work orders for the year. Scheduled work orders are related to routine inspections and maintenance that are based on the manufacturer's maintenance schedule. Unscheduled work orders are identified from operator vehicle inspection cards, mechanic inspections or road failures.

The success of the maintenance efforts is reflected in the fleet's reliability, measured by miles between chargeable road calls (MBCRC). This metric tracks the distance a vehicle covers before encountering a chargeable road call, which occurs when a bus breaks down due to mechanical failure or other issues requiring repair and preventing the bus from completing the assigned route. In 2024, the District consistently exceeded its Key Performance Indicator (KPI) target of 7,500 MBCR, with an average of 11,282 MBCRC over the year, as shown in Attachment 1, Chart 1: Miles Between Chargeable Road Calls.

Quality Assurance Program

The main goal of the Quality Assurance program is to set and promote benchmark standards that ensure a high-quality fleet. By improving maintenance programs and optimizing staff performance, the District can meet financial and operational goals, including maintaining a fleet that meets daily operational requirements and delivers reliable service. A robust Quality Assurance Program helps exceed both internal and external customer expectations. Additionally, the FTA mandates that the District have a quality program in place to foster continuous service improvement. AC Transit's Quality Assurance Program includes the following sub-

programs:

a) Bus Cleanliness Inspection (BCI)
b) California Highway Patrol (CHP) Simulated Inspection
c) Preventative Maintenance Inspection (PMI) Audit
d) Oil Analysis Program
e) Warranty Program

In 2024, Quality Assurance inspected 960 buses as part of the BCI program. The District's average score was 8.09 out of 10, indicating excellent cleanliness as seen in Attachment 1, Chart 2: Bus Cleanliness Scores. To maintain or improve this score, Maintenance continuously evaluates processes, cleanliness initiatives, and invests on employee training. The year ended successfully as all divisions achieved the goal in the month of December, which is commendable.

Quality Assurance conducted quarterly simulated inspections at each Division's transportation and maintenance locations. These inspections mirror the California Highway Patrol (CHP) Motor Carrier Safety Unit Terminal Inspection guidelines, which evaluate the safety condition of buses, maintenance records, and transportation records to identify areas of compliance and areas needing improvement. Every division is inspected annually by the CHP and issued a Transit Operator Safety Compliance Certificate and rating. Each Division received a "Satisfactory" rating for the 2024 calendar year, the highest possible rating issued by the CHP. These are commendable results that speak volumes about the professionalism, dedication, and attention to detail of the maintenance department and support network in the District.

Currently there are 145 of 625 buses that contain warranty coverage in the revenue fleet. In 2024, the District processed 1,206 claims, recovering $1.71 million. Over the past five years (2019-2024), the program successfully recovered $7.49 million in warranty claims. Attachment 1, Chart 3: Bus Warranty Recovery shows annual warranty reimbursements.

This comprehensive approach to quality assurance ensures that the fleet remains in top condition, meeting both operational and customer expectations.

Non-Revenue Vehicles

The district currently has 146 non-revenue vehicles to support the entire operation, including on- street supervision, parts delivery, emergency road service (response), facilities maintenance, equipment maintenance, bus stop maintenance, operator relief, mail delivery, meeting attendance, and other administrative functions. In compliance with Board Policy No. 438, Attachment 1, Chart 4: Non-Revenue List by Department and Attachment 1, Chart 5: Non-Revenue List of Assigned Take Home Vehicles are provided.

Staff will present the Zero Emission Non-Revenue Vehicle Transition Plan to the board in June with the Zero Emission Program Annual Progress Report. The approach for developing AC Transit's Zero Emission Non-Revenue Vehicle Transition Plan is based on state regulations, funding and technology availability, and the District's operational needs. As with the ZEB Transition Plan, the guiding principles listed below will help facilitate the decision-making process to deliver the Zero Emission Non-Revenue Vehicle Transition Plan :

- Replace the fleet per the Federal Transit Administration (FTA) mandated Transit Asset Management

(TAM) Plan Performance Targets

- Meet California Advanced Clean Fleets (ACF) Regulation when purchasing vehicles over 8,500 lbs. gross vehicle weight rating (GVWR)
- Procure ZEVs based on funding/vehicle availability, infrastructure technology capabilities, and duty cycle
- Deploy ZEV technology that is the most efficient and sustainable to operate

In alignment with the ZEB Transition Plan and the TAM Plan, committee members are collaborating with internal stakeholders to develop criteria needed for the vehicle replacement, infrastructure, and energy needs to achieve a 100% transition goal. Staff intends to maximize use of existing ZEB infrastructure to plan additional construction of Zero Emission Vehicle (ZEV) charging and fueling capability.

Contingency Fleet Vehicles

The change in service level has caused the District to have a higher-than-normal spare ratio in the bus fleet. Per FTA policy, eligible surplus buses were placed into a Contingency Fleet. A Contingency Fleet is a group of vehicles placed in an inactive status for energy, training, or other local emergencies. Attachment 1, Chart 6: Contingency Fleet by Type provides a summary total of all the buses currently placed in the contingency fleet. If the District increases service levels, contingency fleet vehicles will be placed back into revenue service.

CARB Compliance

The Innovative Clean Transit (ICT) Regulation was adopted in 2018 and took effect on October 1, 2019, replacing the previous Fleet Rule for Transit Agencies. This regulation mandates that all public transit agencies in California gradually transition their bus fleets to zero-emission technologies, aiming for a complete transition by 2040. It applies to any transit agency that owns, operates, or leases buses with a gross vehicle weight rating (GVWR) over 14,000 pounds, including standard, articulated, over-the-road, double-decker, and cutaway buses.

Additionally, the ICT regulation requires transit agencies to submit annual reports starting in 2021 (Title 13, CCR, Section 2023.8). To streamline the reporting process, the California Air Resources Board (CARB) developed the Innovative Clean Transit Reporting Tool (ICTRT). Reports must be submitted by March 31 each year from 2021 through 2050.

AC Transit submitted its 2024 ICT report to CARB and remains in compliance with the regulation. The District will submit its updated ICT report before the March 31, 2025 deadline.

In 2023, CARB introduced the Heavy-Duty and Maintenance (HD I/M) Regulation, known as the Clean Truck Check program, to identify and repair polluting, poorly maintained heavy-duty vehicles in California. While passenger vehicles and lighter trucks undergo regular emissions testing through the Bureau of Automotive Repair's Smog Check Program, this new regulation extends similar requirements to heavy-duty vehicles. The program begins with roadside emissions screening to identify high emitters, followed by follow-up testing and repairs if necessary. Full implementation will require periodic emissions testing for heavy-duty vehicles to reduce particulate matter (PM) and oxides of nitrogen (NOx), aiming to protect communities most affected by

air pollution.

This regulation applies to nearly all diesel and alternative fuel heavy-duty trucks and buses over 14,000 pounds GVWR operating in California, including hybrids, commercial and government vehicles, as well as out-of-state vehicles. A group of Journey Level Mechanics at each division received training in this new process. AC Transit has submitted the required periodic testing documents to CARB for 2024 and is in compliance with the regulation.

ADVANTAGES/DISADVANTAGES:

This report does not recommend a course of action with notable advantages or disadvantages.

ALTERNATIVES ANALYSIS:

This report is being provided to inform the Board of the status of the District's fleet.

PRIOR RELEVANT BOARD ACTION/POLICIES:

None

ATTACHMENTS:

1. Supplemental Charts and Graphs CY2024

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